SEQUENCE LISTING

<110> Jayashree Aiyar
Claudia Ann Iannotti
Edward Philip Christian
Naomi Jean Logsdon

<120> HUMAN BRAIN-DERIVED TISSUE-SPECIFIC POTASSIUM CHANNEL

<130> PHM.70293

<150> GB 9726339.6
<151> 1997-12-13

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<170> FastSEQ for Windows Version 3.0

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<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

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<210> 3
<211> 854
<212> PRT
<213> Homo sapiens

<400> 3

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35 40 45
Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala
50 55 60
Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg Lys Leu Gln Asn Phe
65 70 75 80
Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His
85 90 95
Ala Tyr Val Phe Leu Leu Val Phe Ser Cys Leu Val Leu Ser Val Phe
100 105 110
Ser Thr Ile Lys Glu Tyr Glu Lys Ser Ser Glu Gly Ala Leu Tyr Ile
115 120 125
Leu Glu Ile Val Thr Ile Val Val Phe Gly Val Glu Tyr Phe Val Arg
130 135 140
Ile Trp Ala Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg
145 150 155 160
Leu Lys Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu
165 170 175
Ile Ala Ser Ile Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe
180 185 190
Ala Thr Ser Ala Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met
195 200 205
Ile Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val
210 215 220
Val Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe
225 230 235 240
Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys Gly
245 250 255
Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp Gly Leu
260 265 270
Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro Gln Thr Trp
275 280 285
Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile Gly Val Ser Phe
290 295 300
Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val
305 310 315 320
Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala
325 330 335
Ala Gly Leu Ile Gln Ser Ala Trp Arg Phe Tyr Ala Thr Asn Leu Ser
340 345 350
Arg Thr Asp Leu His Ser Thr Trp Gln Tyr Tyr Glu Arg Thr Val Thr
355 360 365
Val Pro Met Tyr Ser Ser Gln Thr Gln Thr Tyr Gly Ala Ser Arg Leu
370 375 380
Ile Pro Pro Leu Asn Gln Leu Glu Leu Leu Arg Asn Leu Lys Ser Lys
385 390 395 400
Ser Gly Leu Ala Phe Arg Lys Asp Pro Pro Pro Glu Pro Ser Pro Ser
405 410 415
Gln Lys Val Ser Leu Lys Asp Arg Val Phe Ser Ser Pro Arg Gly Val
420 425 430
Ala Ala Lys Gly Lys Gly Ser Pro Gln Ala Gln Thr Val Arg Arg Ser
435 440 445
Pro Ser Ala Asp Gln Ser Leu Glu Asp Ser Pro Ser Lys Val Pro Lys
450 455 460
Ser Trp Ser Phe Gly Asp Arg Ser Arg Ala Arg Gln Ala Phe Arg Ile
465 470 475 480
Lys Gly Ala Ala Ser Arg Gln Asn Ser Glu Glu Ala Ser Leu Pro Gly
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Glu Asp Ile Val Asp Asp Lys Ser Cys Pro Cys Glu Phe Val Thr Glu
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Asp Leu Thr Pro Gly Leu Lys Val Ser Ile Arg Ala Val Cys Val Met

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Leu Ser Arg Ile Lys Ser Leu Gln Ser Arg Val Asp Gln Ile Val Gly
                565                 570                 575
Arg Gly Pro Ala Ile Thr Asp Lys Asp Arg Thr Lys Gly Pro Ala Glu
            580                 585                 590
Ala Glu Leu Pro Glu Asp Pro Ser Met Met Gly Arg Leu Gly Lys Val
        595                 600                 605
Glu Lys Gln Val Leu Ser Met Glu Lys Lys Leu Asp Phe Leu Val Asn
    610                 615                 620
Ile Tyr Met Gln Arg Met Gly Ile Pro Pro Thr Glu Thr Glu Ala Tyr
625                 630                 635                 640
Phe Gly Ala Lys Glu Pro Glu Pro Ala Pro Pro Tyr His Ser Pro Glu
                645                 650                 655
Asp Ser Arg Glu His Val Asp Arg His Gly Cys Ile Val Lys Ile Val
            660                 665                 670
Arg Ser Ser Ser Ser Thr Gly Gln Lys Asn Phe Ser Ala Pro Pro Ala
        675                 680                 685
Ala Pro Pro Val Gln Cys Pro Pro Ser Thr Ser Trp Gln Pro Gln Ser
    690                 695                 700
His Pro Arg Gln Gly His Gly Thr Ser Pro Val Gly Asp His Gly Ser
705                 710                 715                 720
Leu Val Arg Ile Pro Pro Pro Pro Ala His Glu Arg Ser Leu Ser Ala
                725                 730                 735
Tyr Gly Gly Gly Asn Arg Ala Ser Met Glu Phe Leu Arg Gln Glu Asp
            740                 745                 750
Thr Pro Gly Cys Arg Pro Pro Glu Gly Thr Leu Arg Asp Ser Asp Thr
        755                 760                 765
Ser Ile Ser Ile Pro Ser Val Asp His Glu Glu Leu Glu Arg Ser Phe
    770                 775                 780
Ser Gly Phe Ser Ile Ser Gln Ser Lys Glu Asn Leu Asp Ala Leu Asn
785                 790                 795                 800
Ser Cys Tyr Ala Ala Val Ala Pro Cys Ala Lys Val Arg Pro Tyr Ile
                805                 810                 815
Ala Glu Gly Glu Ser Asp Thr Asp Ser Asp Leu Cys Thr Pro Cys Gly
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Pro Pro Pro Arg Ser Ala Thr Gly Glu Gly Pro Phe Gly Asp Val Gly
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<212> DNA
<213> Homo sapiens

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<210> 5
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<212> PRT
<213> Homo sapiens

<400> 5

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Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser Glu Ala Pro
        35                  40                  45
Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala
    50                  55                  60
Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg Lys Leu Gln Asn Phe
65                  70                  75                  80
Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His
                85                  90                  95
Ala Tyr Val Phe Leu Leu Val Phe Ser Cys Leu Val Leu Ser Val Phe
            100                 105                 110
Ser Thr Ile Lys Glu Tyr Glu Lys Ser Ser Glu Gly Ala Leu Tyr Ile
        115                 120                 125
Leu Glu Ile Val Thr Ile Val Val Phe Gly Val Glu Tyr Phe Val Arg
    130                 135                 140
Ile Trp Ala Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg
145                 150                 155                 160
Leu Lys Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu
                165                 170                 175
Ile Ala Ser Ile Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe
            180                 185                 190
Ala Thr Ser Ala Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met
        195                 200                 205
Ile Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val
    210                 215                 220
Val Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe
225                 230                 235                 240
Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys Gly
                245                 250                 255
Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp Gly Leu
            260                 265                 270
Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro Gln Thr Trp
        275                 280                 285
Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile Gly Val Ser Phe
    290                 295                 300
Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val
305                 310                 315                 320
Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala
                325                 330                 335
Ala Gly Leu Ile Gln Ser Ala Trp Arg Phe Tyr Ala Thr Asn Leu Ser
            340                 345                 350
Arg Thr Asp Leu His Ser Thr Trp Gln Tyr Tyr Glu Arg Thr Val Thr
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Phe His Phe Leu Phe Ser Ile Cys Ser
385                 390
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<210> 6
<211> 581
<212> PRT
<213> Homo sapiens

<400> 6

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Ala Val Phe Leu Ile Val Leu Val Cys Leu Ile Phe Ser Val Leu Ser
        35                  40                  45
Thr Ile Glu Gln Tyr Ala Ala Leu Ala Thr Gly Thr Leu Phe Trp Met
    50                  55                  60
Glu Ile Val Leu Val Val Phe Phe Gly Thr Glu Tyr Val Val Arg Leu
65                  70                  75                  80
Trp Ser Ala Gly Cys Arg Ser Lys Tyr Val Gly Leu Trp Gly Arg Leu
                85                  90                  95
Arg Phe Ala Arg Lys Pro Ile Ser Ile Ile Asp Leu Ile Val Val Val
            100                 105                 110
Ala Ser Met Val Val Leu Cys Val Gly Ser Lys Gly Gln Val Phe Ala
        115                 120                 125
Thr Ser Ala Ile Arg Gly Ile Arg Phe Leu Gln Ile Leu Arg Met Leu
    130                 135                 140
His Val Asp Arg Gln Gly Gly Thr Trp Arg Leu Leu Gly Ser Val Val
145                 150                 155                 160
Phe Ile His Arg Gln Glu Leu Ile Thr Thr Leu Tyr Ile Gly Phe Leu
                165                 170                 175
Gly Leu Ile Phe Ser Ser Tyr Phe Val Tyr Leu Ala Glu Lys Asp Ala
            180                 185                 190
Val Asn Glu Ser Gly Arg Val Glu Phe Gly Ser Tyr Ala Asp Ala Leu
        195                 200                 205
Trp Trp Gly Val Val Thr Val Thr Thr Ile Gly Tyr Gly Asp Lys Val
    210                 215                 220
Pro Gln Thr Trp Val Gly Lys Thr Ile Ala Ser Cys Phe Ser Val Phe
225                 230                 235                 240
Ala Ile Ser Phe Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe
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Ala Leu Lys Val Gln Gln Lys Gln Arg Gln Lys His Phe Asn Arg Gln
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Ile Pro Ala Ala Ala Ser Leu Ile Gln Thr Ala Trp Arg Cys Tyr Ala
        275                 280                 285
Ala Glu Asn Pro Asp Ser Ser Thr Trp Lys Ile Tyr Ile Arg Lys Ala
    290                 295                 300
Pro Arg Ser His Thr Leu Leu Ser Pro Ser Pro Lys Pro Lys Lys Ser
305                 310                 315                 320
Val Val Val Lys Lys Lys Lys Phe Lys Leu Asp Lys Asp Asn Gly Val
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Thr Pro Gly Glu Lys Met Leu Thr Val Pro His Ile Thr Cys Asp Pro
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Pro Glu Glu Arg Arg Leu Asp His Phe Ser Val Asp Gly Tyr Asp Ser
        355                 360                 365
Ser Val Arg Lys Ser Pro Thr Leu Leu Glu Val Ser Met Pro His Phe
    370                 375                 380
Met Arg Thr Asn Ser Phe Ala Glu Asp Leu Asp Leu Glu Gly Glu Thr
385                 390                 395                 400
Leu Leu Thr Pro Ile Thr His Ile Ser Gln Leu Arg Glu His His Arg
                405                 410                 415
Ala Thr Ile Lys Val Ile Arg Arg Met Gln Tyr Phe Val Ala Lys Lys
            420                 425                 430
Lys Phe Gln Gln Ala Arg Lys Pro Tyr Asp Val Arg Asp Val Ile Glu
        435                 440                 445
Gln Tyr Ser Gln Gly His Leu Asn Leu Met Val Arg Ile Lys Glu Leu
    450                 455                 460
Gln Arg Arg Leu Asp Gln Ser Ile Gly Lys Pro Ser Leu Phe Ile Ser
465                 470                 475                 480
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Val Ser Glu Lys Ser Lys Asp Arg Gly Ser Asn Thr Ile Gly Ala Arg
                485                 490                 495
Leu Asn Arg Val Glu Asp Lys Val Thr Gln Leu Asp Gln Arg Leu Ala
            500                 505                 510
Leu Ile Thr Asp Met Leu His Gln Leu Leu Ser Leu His Gly Gly Ser
        515                 520                 525
Thr Pro Gly Ser Gly Gly Pro Pro Arg Glu Gly Gly Ala His Ile Thr
    530                 535                 540
Gln Pro Cys Gly Ser Gly Gly Ser Val Asp Pro Glu Leu Phe Leu Pro
545                 550                 555                 560
Ser Asn Thr Leu Pro Thr Tyr Glu Gln Leu Thr Val Pro Arg Arg Gly
                565                 570                 575
Pro Asp Glu Gly Ser
            580

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      <211> 872
      <212> PRT
      <213> Rattus

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Gly Glu Gly Gly Gly Gly Gly Gly Gly Ala Ala Asn Pro Ala Gly Gly
            20                  25                  30
Asp Ser Ala Val Ala Gly Asp Glu Glu Arg Lys Val Gly Leu Ala Pro
        35                  40                  45
Gly Asp Val Glu Gln Val Thr Leu Ala Leu Gly Thr Gly Ala Asp Lys
    50                  55                  60
Asp Gly Thr Leu Leu Leu Glu Gly Gly Gly Arg Glu Glu Gly Gln Arg
65                  70                  75                  80
Arg Thr Pro Gln Gly Ile Gly Leu Leu Ala Lys Thr Pro Leu Ser Arg
                85                  90                  95
Pro Val Lys Arg Asn Asn Ala Lys Tyr Arg Arg Ile Gln Thr Leu Ile
            100                 105                 110
Tyr Asp Ala Leu Glu Arg Pro Arg Gly Trp Ala Leu Leu Tyr His Ala
        115                 120                 125
Leu Val Phe Leu Ile Val Leu Gly Cys Leu Ile Leu Ala Val Leu Thr
    130                 135                 140
Thr Phe Lys Glu Tyr Glu Thr Val Ser Gly Asp Trp Leu Leu Val Pro
145                 150                 155                 160
Glu Thr Phe Ala Ile Phe Ile Phe Gly Ala Glu Phe Ala Leu Arg Ile
                165                 170                 175
Trp Ala Ala Gly Cys Cys Cys Arg Tyr Lys Gly Trp Arg Gly Arg Leu
            180                 185                 190
Lys Phe Ala Arg Lys Pro Leu Cys Met Leu Asp Ile Phe Val Leu Ile
        195                 200                 205
Ala Ser Val Pro Val Val Ala Val Gly Asn Gln Gly Asn Val Leu Ala
    210                 215                 220
Thr Ser Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met Leu Arg
225                 230                 235                 240
Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Ala Ile Cys
                245                 250                 255
Ala His Ser Lys Glu Leu Ile Thr Ala Trp Tyr Ile Gly Phe Leu Thr
            260                 265                 270
Leu Ile Leu Ser Ser Phe Leu Val Tyr Leu Val Glu Lys Asp Val Pro
        275                 280                 285
Glu Met Asp Ala Gln Gly Glu Glu Met Lys Glu Glu Phe Glu Thr Tyr
    290                 295                 300
Ala Asp Ala Leu Trp Trp Gly Leu Ile Thr Leu Ala Thr Ile Gly Tyr
305                 310                 315                 320
Gly Asp Lys Thr Pro Lys Thr Trp Glu Gly Arg Leu Ile Ala Ala Thr
                325                 330                 335
Phe Ser Leu Ile Gly Val Ser Phe Phe Ala Leu Pro Ala Gly Ile Leu
            340                 345                 350
Gly Ser Gly Leu Ala Leu Lys Val Gln Glu Gln His Arg Gln Lys His
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        355                 360                 365
Phe Glu Lys Arg Arg Lys Pro Ala Ala Glu Leu Ile Gln Ala Ala Trp
    370                 375                 380
Arg Tyr Tyr Ala Thr Asn Asn Arg Leu Asp Leu Val Ala Thr Trp Arg
385                 390                 395                 400
Phe Tyr Glu Ser Val Val Ser Phe Pro Phe Phe Arg Lys Glu Gln Leu
                405                 410                 415
Glu Ala Ala Ala Ser Gln Lys Leu Gly Leu Leu Asp Arg Val Arg Leu
            420                 425                 430
Ser Asn Pro Arg Gly Ser Asn Thr Lys Gly Lys Leu Phe Thr Pro Leu
        435                 440                 445
Asn Val Asp Ala Ile Glu Glu Ser Pro Ser Lys Glu Pro Lys Pro Val
    450                 455                 460
Gly Leu Asn Asn Lys Glu Arg Phe Arg Thr Ala Phe Arg Met Lys Ala
465                 470                 475                 480
Tyr Ala Phe Trp Gln Ser Ser Glu Asp Ala Gly Thr Gly Asp Pro Met
                485                 490                 495
Thr Glu Asp Arg Gly Tyr Gly Asn Asp Phe Leu Ile Glu Asp Met Ile
            500                 505                 510
Pro Thr Leu Lys Ala Ala Ile Arg Ala Val Arg Ile Leu Gln Phe Arg
        515                 520                 525
Leu Tyr Lys Lys Lys Phe Lys Glu Thr Leu Arg Pro Tyr Asp Val Lys
    530                 535                 540
Asp Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met Leu Ser Arg
545                 550                 555                 560
Ile Lys Tyr Leu Gln Thr Arg Ile Asp Met Ile Phe Thr Pro Gly Pro
                565                 570                 575
Pro Ser Thr Pro Lys His Lys Lys Ser Gln Lys Gly Ser Ala Phe Thr
            580                 585                 590
Tyr Pro Ser Gln Gln Ser Pro Arg Asn Glu Pro Tyr Val Ala Arg Ala
        595                 600                 605
Ala Thr Ser Glu Thr Glu Asp Gln Ser Met Met Gly Lys Phe Val Lys
    610                 615                 620
Val Glu Arg Gln Val His Asp Met Gly Lys Lys Leu Asp Phe Leu Val
625                 630                 635                 640
Asp Met His Met Gln His Met Glu Arg Leu Gln Val His Val Thr Glu
                645                 650                 655
Tyr Tyr Pro Thr Lys Gly Ala Ser Ser Pro Ala Glu Gly Glu Lys Lys
            660                 665                 670
Glu Asp Asn Arg Tyr Ser Asp Leu Lys Thr Ile Ile Cys Asn Tyr Ser
        675                 680                 685
Glu Ser Gly Pro Pro Asp Pro Pro Tyr Ser Phe His Gln Val Pro Ile
    690                 695                 700
Asp Arg Val Gly Pro Tyr Gly Phe Phe Ala His Asp Pro Val Lys Leu
705                 710                 715                 720
Thr Arg Gly Gly Pro Ser Ser Thr Lys Ala Gln Ala Asn Leu Pro Ser
                725                 730                 735
Ser Gly Ser Thr Tyr Ala Glu Arg Pro Thr Val Leu Pro Ile Leu Thr
            740                 745                 750
Leu Leu Asp Ser Cys Val Ser Tyr His Ser Gln Thr Glu Leu Gln Gly
        755                 760                 765
Pro Tyr Ser Asp His Ile Ser Pro Arg Gln Arg Arg Ser Ile Thr Arg
    770                 775                 780
Asp Ser Asp Thr Pro Leu Ser Leu Met Ser Val Asn His Glu Glu Leu
785                 790                 795                 800
Glu Arg Ser Pro Ser Gly Phe Ser Ile Ser Gln Asp Arg Asp Asp Tyr
                805                 810                 815
Val Phe Gly Pro Ser Gly Gly Ser Ser Trp Met Arg Glu Lys Arg Tyr
            820                 825                 830
Leu Ala Glu Gly Glu Thr Asp Thr Asp Thr Asp Pro Phe Thr Pro Ser
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Gly Ser Met Pro Met Ser Ser Thr Gly Asp Gly Ile Ser Asp Ser Ile
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Trp Thr Pro Ser Asn Lys Pro Thr
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            20                  25                  30
Arg Thr Pro Gln Gly Ile Gly Leu Leu Ala Lys Thr Pro Leu Ser Arg
        35                  40                  45
Pro Val Lys Arg Asn Asn Ala Lys Tyr Arg Arg Ile Gln Thr Leu Ile
    50                  55                  60
Tyr Asp Ala Leu Glu Arg Pro Arg Gly Trp Ala Leu Leu Tyr His Ala
65                  70                  75                  80
Leu Val Phe Leu Ile Val Leu Gly Cys Leu Ile Leu Ala Val Leu Thr
                85                  90                  95
Thr Phe Lys Glu Tyr Glu Thr Val Ser Gly Asp Trp Leu Leu Leu Leu
            100                 105                 110
Glu Thr Phe Ala Ile Phe Ile Phe Gly Ala Glu Phe Ala Leu Arg Ile
        115                 120                 125
Trp Ala Ala Gly Cys Cys Cys Arg Tyr Lys Gly Trp Arg Gly Arg Leu
    130                 135                 140
Lys Phe Ala Arg Lys Pro Leu Cys Met Leu Asp Ile Phe Val Leu Ile
145                 150                 155                 160
Ala Ser Val Pro Val Val Ala Val Gly Asn Gln Gly Asn Val Leu Ala
                165                 170                 175
Thr Ser Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met Leu Arg
            180                 185                 190
Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Ala Ile Cys
        195                 200                 205
Ala His Ser Lys Glu Leu Ile Thr Ala Trp Tyr Ile Gly Phe Leu Thr
    210                 215                 220
Leu Ile Leu Ser Ser Phe Leu Val Tyr Leu Val Glu Lys Asp Val Pro
225                 230                 235                 240
Glu Val Asp Ala Gln Gly Glu Glu Met Lys Glu Glu Phe Glu Thr Tyr
                245                 250                 255
Ala Asp Ala Leu Trp Trp Gly Leu Ile Thr Leu Ala Thr Ile Gly Tyr
            260                 265                 270
Gly Asp Lys Thr Pro Lys Thr Trp Glu Gly Arg Leu Ile Ala Ala Thr
        275                 280                 285
Phe Ser Leu Ile Gly Val Ser Phe Phe Ala Leu Pro Ala Gly Ile Leu
    290                 295                 300
Gly Ser Gly Leu Ala Leu Lys Val Gln Glu Gln His Arg Gln Lys His
305                 310                 315                 320
Phe Glu Lys Arg Arg Lys Pro Ala Ala Glu Leu Ile Gln Ala Ala Trp
                325                 330                 335
Arg Tyr Tyr Ala Thr Asn Pro Asn Arg Ile Asp Leu Val Ala Thr Trp
            340                 345                 350
Arg Phe Tyr Glu Ser Val Val Ser Phe Pro Phe Phe Arg Lys Glu Gln
        355                 360                 365
Leu Glu Ala Ala Ser Ser Gln Lys Leu Gly Leu Leu Asp Arg Val Arg
    370                 375                 380
Leu Ser Asn Pro Arg Gly Ser Asn Thr Lys Gly Lys Leu Phe Thr Pro
385                 390                 395                 400
Leu Asn Val Asp Ala Ile Glu Glu Ser Pro Ser Lys Glu Pro Lys Pro
                405                 410                 415
Val Gly Leu Asn Asn Lys Glu Arg Phe Arg Thr Ala Phe Arg Met Lys
            420                 425                 430
Ala Tyr Ala Phe Trp Gln Ser Ser Glu Asp Ala Gly Thr Gly Asp Pro
        435                 440                 445
Met Ala Glu Asp Arg Gly Tyr Gly Asn Asp Phe Pro Ile Glu Asp Met
    450                 455                 460
Ile Pro Thr Leu Lys Ala Ala Ile Arg Ala Val Arg Ile Leu Gln Phe
465                 470                 475                 480
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Arg Leu Tyr Lys Lys Lys Phe Lys Glu Thr Leu Arg Pro Tyr Asp Val
                485                 490                 495
Lys Asp Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met Leu Ser
            500                 505                 510
Arg Ile Lys Tyr Leu Gln Thr Arg Ile Asp Met Ile Phe Thr Pro Gly
        515                 520                 525
Pro Pro Ser Thr Pro Lys His Lys Lys Ser Gln Lys Gly Ser Ala Phe
    530                 535                 540
Thr Phe Pro Ser Gln Gln Ser Pro Arg Asn Glu Pro Tyr Val Ala Arg
545                 550                 555                 560
Pro Ser Thr Ser Glu Ile Glu Asp Gln Ser Met Met Gly Lys Phe Val
                565                 570                 575
Lys Val Glu Arg Gln Val Gln Asp Met Gly Lys Lys Leu Asp Phe Leu
            580                 585                 590
Val Asp Met His Met Gln His Met Glu Arg Leu Gln Val Gln Val Thr
        595                 600                 605
Glu Tyr Tyr Pro Thr Lys Gly Thr Ser Ser Pro Ala Glu Ala Glu Lys
    610                 615                 620
Lys Glu Asp Asn Arg Tyr Ser Asp Leu Lys Thr Ile Ile Cys Asn Tyr
625                 630                 635                 640
Ser Glu Thr Gly Pro Pro Glu Pro Pro Tyr Ser Phe His Gln Val Thr
                645                 650                 655
Ile Asp Lys Val Ser Pro Tyr Gly Phe Phe Ala His Asp Pro Val Asn
            660                 665                 670
Leu Pro Arg Gly Gly Pro Ser Ser Gly Lys Val Gln Ala Thr Pro Pro
        675                 680                 685
Ser Ser Ala Thr Thr Tyr Val Glu Arg Pro Thr Val Leu Pro Ile Leu
    690                 695                 700
Thr Leu Leu Asp Ser Arg Val Ser Cys His Ser Gln Ala Asp Leu Gln
705                 710                 715                 720
Gly Pro Tyr Ser Asp Arg Ile Ser Pro Arg Gln Arg Arg Ser Ile Thr
                725                 730                 735
Arg Asp Ser Asp Thr Pro Leu Ser Leu Met Ser Val Asn His Glu Glu
            740                 745                 750
Leu Glu Arg Ser Pro Ser Gly Phe Ser Ile Ser Gln Asp Arg Asp Asp
        755                 760                 765
Tyr Val Phe Gly Pro Asn Gly Gly Ser Ser Trp Met Arg Glu Lys Arg
    770                 775                 780
Tyr Leu Ala Glu Gly Glu Thr Asp Thr Asp Thr Asp Pro Phe Thr Pro
785                 790                 795                 800
Ser Gly Ser Met Pro Leu Ser Ser Thr Gly Asp Gly Ile Ser Asp Ser
                805                 810                 815
Val Trp Thr Pro Ser Asn Lys Pro Ile
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